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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,518	09/14/2004	Fumikazu Machino	041230-0311798	1173

909 7590 09/25/2006

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EXAMINER
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DAVIS, JENNA L

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 09/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/507,518

Applicant(s)

MACHINO, FUMIKAZU

Examiner

Jenna Davis

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-7 and 9-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7 and 9-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Amendment***

Applicant's amendment filed July 13, 2006, has been entered. Currently claims 1, 2, 4-7, and 9-17 are present.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4-7, and 9-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Machino (US 6855398) in view of WO01/62829 to Dopico.

Machino teaches a carbon fiber felt comprising a carbon fiber aggregate and a binder to bond the carbon fiber constituting the aggregate. Machino's felt may further include particulates such as glass fibers that the Examiner equates with the inorganic oxide claimed here. Machino does not teach providing a silicone compound as a fire resist agent, but does desire a product with good fireproofness (Abstract). The binder of Machino is a phenolic resin, a melamine resin, or a silicone resin (col 17, lines 20-33). Dopico teaches modifying a thermosetting phenolic resole resin with an epoxy-functional polysiloxane to improve the toughness of composites made therewith such that products will have good fire resistance. (Page 2, lines 10-11). At page 3, lines 3-5 Dopico teaches using the resins obtained upon modification to impregnate a variety of substrates including carbon fiber (See also claims 17-19). At page 14, lines 16-20 Dopico

Art Unit: 1771

teaches providing the resin in an amount of 1 to about 50 parts resin per 100 parts of substrate. This range encompasses the range of 1 to 30 parts by weight per 100 parts by weight fiber claimed here.

As to claims 4-7, the Examiner equates Dopico's epoxy modified polysiloxane with a siloxane having functional groups of the type claimed here. It is further noted that in Table 3 of Dopico methoxy-functional siloxanes are provided which would contain the alkoxy functional groups required by claim 7.

As to claims 11-16, Machino's felt is composed of fine carbon fibers having an average fiber diameter of 0.5 to 5 microns and a fiber length of 1-15 mm (Abstract). At column 5, lines 18-36 Machino further teaches forming the carbon fibers of anisotropic pitch.

As to claim 17, the material of Machino is disclosed to be a thermal-acoustic insulation.

It would have been obvious to a person having ordinary skill in the art to have provided the polysiloxane modified phenol resin of Dopico as the phenolic resin of Machino in order to obtain a thermal insulation formed of carbon fibers with good resistance to flame as taught by both references with the expectation that the materials would have enhanced toughness and good flame resistance at the time the present invention was made.

### ***Response to Arguments***


Applicant's arguments with respect to claims 1, 2, 4-7, and 9-17 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jenna Davis whose telephone number is 571-272-3357. The examiner can normally be reached on M-F 9:0-5:30.

Art Unit: 1771

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1111. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Jenna Davis  
Primary Examiner  
Art Unit 1771

Jenna Davis  
571-272-3357